

**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Agere Systems Inc.Application No./Patent No.: 09/634,764 Filed/Issue Date: August 7, 2000Entitled: ACOUSTIC MODELING APPARATUS AND METHOD USING ACCELERATED BEAM TRACING TECHNIQUESAgere Systems Inc., a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest  
(The extent (by percentage) of its ownership interest is \_\_\_\_\_ %)

in the patent application/patent identified above by virtue of either:

- A ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

OR

- B ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Ingrid B. Carlborn, et al. To: Lucent Technologies Inc.

The document was recorded in the United States Patent and Trademark Office at  
Reel 011397, Frame 0274, or for which a copy thereof is attached.

2. From: Lucent Technologies Inc. To: Agere Systems Guardian Corp.

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

3. From: Agere Systems Guardian Corp. To: Agere Systems Inc.

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

- ☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

J. Joel Justiss/November 1, 2006

Signature

Date

J. Joel Justiss972-480-8800

Printed or Typed Name

Telephone Number

Attorney for Applicant

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



2925-451

**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**  
ASSISTANT SECRETARY AND COMMISSIONER  
OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

MARCH 16, 2001

PTAS

BIRCH, STEWART, KOLASCH & BIRCH, LLP  
GARY D. YACURA  
8110 GATEHOUSE ROAD  
SUITE 500 EAST  
FALLS CHURCH, VA 22042



\*101575602A\*

**UNITED STATES PATENT AND TRADEMARK OFFICE**  
**NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT**

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 12/20/2000

REEL/FRAME: 011397/0274  
NUMBER OF PAGES: 4

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

CARLBOM, INGRID B.

DOC DATE: 11/07/2000

ASSIGNOR:

FUNKHOUSER, THOMAS A.

DOC DATE: 11/07/2000

ASSIGNEE:

LUCENT TECHNOLOGIES INC.  
600 MOUNTAIN AVENUE  
P.O. BOX 636  
MURRAY HILL, NEW JERSEY 07974-0636

SERIAL NUMBER: 09634764

FILING DATE: 08/07/2000

PATENT NUMBER:

ISSUE DATE:

ANTIONE ROYALL, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS

## ASSIGNMENT AND AGREEMENT

For value received, we, **Ingrid B. Carlhom** of Summit in the County of Union and State of New Jersey, and **Thomas A. Funkhouser** of Pennington in the County of Mercer and State of New Jersey, hereby sell, assign and transfer to Lucent Technologies Inc., a corporation of the State of Delaware, having an office at 600 Mountain Avenue, Murray Hill, New Jersey 07974-0636, U.S.A., and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to **ACOUSTIC MODELING APPARATUS AND METHOD USING ACCELERATED BEAM TRACING TECHNIQUES**, described in an application for Letters Patent of the United States, filed in the U.S. Patent and Trademark Office on August 7, 2000 and assigned U.S. Serial No. 09/634,764, and all the rights and privileges in said application and under any and all Letters Patent that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to Lucent Technologies Inc. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

We authorize Lucent Technologies Inc. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of Lucent Technologies Inc. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to Lucent Technologies Inc. in the United States and in all countries foreign to the United States, or to such nominees as Lucent Technologies Inc. may designate.

We agree that, when requested, we shall, without charge to Lucent Technologies Inc. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.



Ingrid B. Carlbom

Date:

11/7/2000

United States of America

)

State of

New Jersey

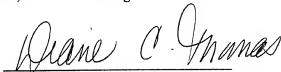
) ss.:

County of

Union

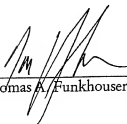
)

On this 7 day of November, 2000, before me personally came Ingrid B. Carlbom, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.



Notary Public

DIANE C. THOMAS  
NOTARY PUBLIC OF NEW JERSEY  
My Commission Expires July 11, 2001

  
\_\_\_\_\_  
Thomas A. Funkhouser

Date: 11/7/2000

United States of America )

State of New Jersey ) ss.:

County of Union )

On this 7 day of November, 2000, before me personally came Thomas A. Funkhouser, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

  
\_\_\_\_\_  
Notary Public

DIANE C. THOMAS  
NOTARY PUBLIC OF NEW JERSEY  
My Commission Expires July 11, 2001

Lucent Technologies Inc.  
600 Mountain Avenue (Room 3C-512)  
P. O. Box 636  
Murray Hill, New Jersey 07974-0636

To the Honorable Commissioner of Patents



hed original documents or copy

1. Name of conveying party(ies):

101575602

receiving party(ies)

**Ingrid B. CARLBOM and Thomas A. FUNKHOUSER**  
 Additional name(s) of conveying party(ies) attached? ☐ Yes  
☒ No

Name: Lucent Technologies Inc.

Internal Address:

3. Nature of conveyance:

☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other

Street Address: 600 Mountain Avenue, P.O. Box 636

City: Murray Hill State: NJ ZIP: 07974-0636

Additional name(s) & address(es) attached? ☐ Yes ☒ No

Execution Date: November 7, 2000



4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No(s). 09/634,764

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: BIRCH, STEWART, KOLASCH &amp; BIRCH, LLP

Internal Address: P.O. Box 747  
Falls Church, Virginia 22040-0747

Street Address: 8110 Gatehouse Road, Suite 500 East

City: Falls Church State: VA ZIP: 22042

6. Total number of applications and patents involved: 17. Total fee (37 CFR 3.41): \$40.00☐ Enclosed☒ Authorized to be charged to deposit account8. Deposit account number: 12-2325

(Attach triplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature.

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*

Gary D. Yacura, Reg. 35,416

Name of Person Signing

Signature

#37275

December 20, 2000

Date

Total number of pages including cover sheet, attachments, and document

4

Mail documents to be recorded with required cover sheet information to:  
 Commissioner of Patents & Trademarks, Box Assignments  
 Washington, D.C. 20231

**EXECUTION COPY**

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**PATENT ASSIGNMENT**

**by and between**

**LUCENT TECHNOLOGIES INC.**

**and**

**AGERE SYSTEMS GUARDIAN CORP.**

**Dated as of January 30, 2001**

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## PATENT ASSIGNMENT

THIS PATENT ASSIGNMENT (this "Assignment"), effective as of January 30, 2001 (the "Effective Date"), is by and between Lucent Technologies Inc., a Delaware corporation, with offices at 600 Mountain Avenue, Murray Hill, New Jersey 07974, United States of America, ("ASSIGNOR") and Agere Systems Guardian Corp., a Delaware corporation, with offices at 555 Union Boulevard, Allentown, PA 18109, United States of America ("Agere Systems Guardian").

## RECITALS

A. WHEREAS, the Board of Directors of ASSIGNOR has determined that it is in the best interests of ASSIGNOR and its stockholders to separate ASSIGNOR's existing businesses into two independent businesses;

B. WHEREAS, ASSIGNOR presently owns or controls certain patents, patent applications, and invention submissions listed in the attached Appendices A and B (hereinafter "TRANSFERRED PATENTS") and;

C. WHEREAS, in furtherance of the foregoing separation, ASSIGNOR desires to transfer, assign, convey, deliver and vest all of its interests and rights in TRANSFERRED PATENTS for all countries, jurisdictions and political entities of the world, to and in Agere Systems Guardian;

NOW, THEREFORE, in consideration of the premises and for other good and valid consideration, the receipt and sufficiency of which are hereby acknowledged, the parties, intending to be legally bound, agree as follows:

ASSIGNOR, subject to existing rights and licenses of third parties, does hereby assign, convey, transfer and deliver, and agrees to assign, convey, transfer and deliver to Agere Systems Guardian, its successors, assigns and legal representatives or nominees, ASSIGNOR's entire right, title and interest, for all countries, jurisdictions and political entities of the world, along with the right to sue for past infringement, to all TRANSFERRED PATENTS listed on Appendices A and B, and corresponding counterpart foreign patents and patent applications, with respect to which, and to the extent to which, ASSIGNOR now has or hereafter acquires the right to so assign, convey, transfer and deliver. Agere Systems Guardian recognizes that ASSIGNOR holds only bare legal title to the TRANSFERRED PATENTS listed in Appendix A (which lists the United States Patents and patent applications previously exclusively licensed to Lucent Technologies Microelectronics Guardian Corp.).

ASSIGNOR and ASSIGNEE recognize that the patents listed in Appendices A and B may inadvertently include patents that are owned by various subsidiaries of ASSIGNOR, including Agere, Inc., Ortel Corporation, Optimay Corporation, Herrmann Technology, Inc., and Enable Semiconductor, Inc. Ownership of such patents shall not be affected by this Patent

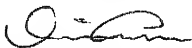


Assignment, and ASSIGNEE agrees that any such patents shall be deemed deleted from Appendices A and B.


ASSIGNOR agrees that, upon request it will, at any time without charge to Agere Systems Guardian, but at Agere Systems Guardian's expense, furnish all necessary documentation relating to or supporting chain of title, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for vesting title to TRANSFERRED PATENTS in Agere Systems Guardian, its successors, assigns and legal representatives or nominees; including but not limited to any acts which may be necessary, desirable or convenient for claiming said rights and for securing and maintaining patents for said inventions in any and all countries and for vesting title thereto in Agere Systems Guardian and its respective successors, assigns and legal representatives or nominees.

IN WITNESS WHEREOF, the parties have caused this PATENT ASSIGNMENT to be executed by their duly authorized representatives as of the Effective Date.

LUCENT TECHNOLOGIES INC.

By:   
Daniel P. McCurdy  
President, Intellectual Property Business

AGERE SYSTEMS GUARDIAN CORP.

By:   
Fred M. Romano  
President

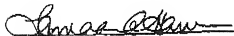
ACKNOWLEDGMENTS

STATE OF NEW JERSEY )

: ss:

COUNTY OF SOMERSET )

I CERTIFY that on January 30, 2001, Daniel P. McCurdy personally came before me and this person acknowledged under oath, to my satisfaction that:  
a.) this person signed, sealed and delivered the attached Patent Assignment as President - Intellectual Property Business of Lucent Technologies Inc.; and  
b.) this Patent Assignment was signed and made by Lucent Technologies Inc. as its voluntary act and deed by virtue of authority from its Board of Directors.



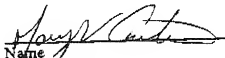
Name TAMORA ANNE HANNA  
Notary Public Notary Public of New Jersey  
My Commission Expires ~~Registered~~ in Hunterdon County  
[Notarial Seal] My Commission Expires March 25, 2002

STATE OF FLORIDA )

: ss:

COUNTY OF ORANGE )

I CERTIFY that on January 31, 2001, Fred M. Romano personally came before me and this person acknowledged under oath, to my satisfaction that:  
a.) this person signed, sealed and delivered the attached Patent Assignment as Vice President of Agere Systems Guardian Corp.; and  
b.) this Patent Assignment was signed and made by Agere Systems Guardian Corp. as its voluntary act and deed by virtue of authority from its Board of Directors.



Name  
Notary Public  
My Commission Expires:  
[Notarial Seal]



APPENDIX B (continued)  
Transferred Patents

Case Name	Filing Date	Issue Date	Patent No.	Serial No.
Cannon 81-74-29	10/14/1999			09/418996
Cannon 82-75-30	10/5/1999			09/412178
Cannon 83-76-31	10/5/1999			09/412182
Cannon 84-77	10/21/1999			09/422238
Cannon 85-32	11/2/1999			09/432119
Cannon 86-33	11/23/1999			09/447279
Cannon 87-34-10	11/16/1999			09/441078
Cannon 88-78-36	10/15/1999			09/419483
Cannon 89-80-38	11/5/1999			09/434359
Cannon 90-81-39	11/5/1999			09/434992
Cannon 9-12-12	1/20/1998		09/009600	
Cannon 91-82-41	11/24/1999			09/448932
Cannon 93-84-43-24	12/10/1999			09/458651
Cannon 94-85-17-44	1/7/2000			09/478883
Cannon 95-86	12/20/1999			60/172842
Cannon 96-87-45	3/13/2000			09/524347
Cannon 97-88	2/23/2000			09/511701
Cannon 98-2	5/25/2000			09/579565
Cannon 99-89-46	4/20/2000			09/553283
Cao 2-2-11-11-6	11/23/1999			09/447284
Caras 2-14-28-5-1	5/14/1999			09/312435
Carelli 3-21	3/31/2000			09/540473
Carelli 4-2	8/7/2000		09/633660	
Cargo 5-8-14-7	9/4/1997		08/923316	
Carlbom 5-4	8/6/1999			60/147662
Carr 1-18-201-8-3	11/3/2000		09/705350	
Carroll 4-4-3-3-2-1	12/28/1998			09/222587
Carroll 5-2-4	2/1/1999			09/243377
Carroll 6-3-5	2/2/1999			09/241458
Carroll 7-4	11/23/1999			09/448521
Carroll 8-5-5-3	8/26/1999			09/383694
Carroll 9-4-25-1-1-6-22-1	6/29/1999			60/141551
Case 1-2	4/6/1999			09/286430
Castellano Rodriguez 1-1-1	11/2/1999			09/431320
Cauffman 1-1-5-13-3	5/19/1998		09/081409	
Cauffman 1-3-3-4-1	1/12/2000			09/481435
Cauffman 2-2-6-2-1	1/15/1999			09/232113
Cava 35-5	12/29/1998	7/25/2000	6093668	09/222110
Celebi 2	2/11/2000			09/501984
Celebi 3	8/16/2000		09/639642	
Celebi 4	8/16/2000		09/639641	
Celler 20-1	6/10/1998		09/095468	
Cesari 5-6	8/10/1998		09/131929	
Chabinec 2-9-8-17	12/10/1997		08/988250	
Chacon 1-49	8/6/1998		09/130240	
Chacon 2-51	10/23/1998			09/178317
Chacon 3-56-1	11/23/1998			09/197807
Chacon 4-58-98	8/26/1999			09/383457
Chacon 5-2-1-8-115	8/31/1999			09/387299
Chacon 6-117-131	8/30/1999			09/385971
Chacon 7-47-44-133	9/13/2000		09/660900	
Chacon 7-47-44-133	9/15/1999			60/154086
Chacon 8-15-2-1-148	4/27/2000			09/562346
Chadha 1-1-1	2/26/1998		09/031012	
Chadha 2-2-2	10/19/1998			09/174846
Chakrabarti 17-19	4/12/1999			09/290535
Chakrabarti 21-16	6/30/1999			09/343738
Chakrabarti 24	3/30/2000			09/538690
Chakrabarti 26-1-9-1-4	1/18/2000			09/487400
Chakrabarti 30-34-9	3/1/2000			09/516347

# Delaware

PAGE 1

*The First State*

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF OWNERSHIP, WHICH MERGES:

"AGERE SYSTEMS GUARDIAN CORP.", A DELAWARE CORPORATION, WITH AND INTO "AGERE SYSTEMS INC." UNDER THE NAME OF "AGERE SYSTEMS INC.", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED IN THIS OFFICE THE TWENTY-NINTH DAY OF AUGUST, A.D. 2002, AT 9 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF AUGUST, A.D. 2002.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.



Harriet Smith Windsor  
Harriet Smith Windsor, Secretary of State

3268412 8100M

AUTHENTICATION: 1959517

020545223

DATE: 08-29-02

**CERTIFICATE OF OWNERSHIP AND MERGER**

**OF**

**Agere Systems Guardian Corp.**  
**(a Delaware corporation)**

**INTO**

**Agere Systems Inc.**  
**(a Delaware corporation)**

**UNDER SECTION 253 OF THE GENERAL  
CORPORATION LAW OF THE STATE OF DELAWARE**

Agere Systems Inc., a corporation organized and existing under the laws of Delaware ("Corporation"), DOES HEREBY CERTIFY:

**FIRST:** The Corporation is the owner of all of the outstanding shares of common stock of Agere Systems Guardian Corp., which is also a business corporation of the State of Delaware.

**SECOND:** On August 22, 2002 the Subsidiary Governance Committee of the Board of Directors of the Corporation adopted the following resolution to merge Agere Systems Guardian Corp. into the Corporation:

**RESOLVED** that Agere Systems Guardian Corp., a Delaware corporation, shall be merged with and into Agere Systems Inc., a Delaware corporation, with Agere Systems Inc. being the surviving corporation, and Agere Systems Inc. shall thereupon assume all of the obligations of Agere Systems Guardian Corp."

**THIRD:** That the merger authorized hereby shall become effective as of 9:00 a.m. Eastern Standard Time on August 31, 2002.

Executed on August 22, 2002

**AGERE SYSTEMS INC.**

By Paul Bento  
Paul Bento, Vice President

**GENERAL APPOINTMENT OF AGENT**

**AND**

**POWER OF ATTORNEY**

Agere Systems Inc., for itself and its subsidiaries, and as successor in interest to patents of Agere Systems Inc., hereby appoints:

Ian M. Hughes, Reg. No. 41,083  
Mark Kurisko, Reg. No. 38,944  
Marie MacNichol, Reg. No. 35941  
Scott W. McLellan, Reg. No. 30,776  
David L. Smith, Reg. No. 30,592  
Lloyd Sadler, Reg. No. 40,154  
John P. Veschi, Reg. No. 39,058  
David A. Saseo, Reg. No. 43,084  
Chad Hilyard, Reg. No. 40,647

as agents and attorneys to act on Agere Systems Inc.'s behalf before any competent National and International Authorities in connection with any and all patents and patent applications filed by Agere Systems Inc., its wholly-owned subsidiaries or its predecessors, or otherwise issued or pending in the name of Agere Systems Inc. or any of its wholly-owned subsidiaries or predecessors, with the power to further appoint agents, and grant powers of attorney in connection therewith.

Agere Systems Inc.

By: John P. Veschi  
John P. Veschi  
Vice President - Intellectual Property & Law

Date: November 4, 2005